METHOXYCHLOR
CAS # 72-43-5

Agency for Toxic Substances and Disease Registry ToxFAQs **September 1995**

This fact sheet answers the most frequently asked health questions (FAQs) about methoxychlor. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to methoxychlor occurs mainly when workers, farmers, and gardeners use this pesticide. Most people are not regularly exposed to this chemical. In animals, high levels of methoxychlor caused tremors and convulsions, and affected fertility. Not much is known about the effects of methoxychlor on human health. This chemical has been found in at least 42 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

What is methoxychlor?

(Pronounced měth′ŏks′ ə klôr)

Methoxychlor is a manufactured chemical and does not occur naturally in the environment. It is a pale-yellow powder with a slightly fruity or musty odor.

Methoxychlor is used as an insecticide against flies, mosquitoes, cockroaches, chiggers, and a wide variety of other insects. It is used on agricultural crops, livestock, animal feed, grain storage, home gardens, and on pets.

Trade names for methoxychlor include DMDT, Marlate, and Metox.

What happens to methoxychlor when it enters the environment?

- Methoxychlor enters the environment when it is applied to agricultural crops, farm animals, and home gardens as a pesticide.
- Methoxychlor doesn't dissolve easily in water.
- It sticks strongly to soil particles and does not easily evaporate into the air.
- Methoxychlor breaks down slowly in air, water, and soil by sunlight and microscopic organisms. It may take several months.
- Levels of methoxychlor can build up in algae, bacteria, snails, clams, and some fish, but it is usually transformed into other substances and rapidly released from their bodies.

How might I be exposed to methoxychlor?

- Most people are not exposed to methoxychlor regularly.
- It is not usually detected in air or water.
- Low levels are sometimes found in food.
- People who work in factories that make methoxychlor or products containing it may breathe it in the air or get it on their skin.
- People who work on, or live near, farms that use methoxychlor on crops or livestock may be exposed to it in air, soil, or water.
- Individuals who use pesticides containing methoxychlor for home gardening or for spraying pets may also be exposed to above-average levels.
- Air, surface water, or soil near waste sites may also contain higher levels.

How can methoxychlor affect my health?

There is very little information about how methoxychlor affects people's health. In animals, exposure to very high levels of methoxychlor produced neurologic effects such as

tremors, convulsions, and seizures. Because methoxychlor is broken down quickly in the body, you are not likely to experience neurologic effects unless you are exposed to very high levels.

Animal studies show that exposure to methoxychlor in food or water harms the ovaries and uterus in females, and the testes and prostate in males. Fertility is decreased in both male and female animals. It is expected that these effects could occur following inhalation or skin contact. Reproductive effects have not been reported in people, but effects seen in animals could possibly happen in humans, too.

How likely is methoxychlor to cause cancer?

The International Agency for Research on Cancer has determined that methoxychlor is not classifiable as to its carcinogenicity to humans. Animal and human studies do not provide conclusive evidence about the possible carcinogenicity of methoxychlor.

Is there a medical test to show whether I've been exposed to methoxychlor?

Laboratory tests can detect methoxychlor in blood, fat, semen, and breast milk. These tests can only detect exposure within 24 hours because methoxychlor leaves your body quickly. These tests do not tell how much methoxychlor you have been exposed to or if it will harm your health. The tests are not routinely available at doctors' offices.

Has the federal government made recommendations to protect human health?

The Environmental Protection Agency (EPA) has set a limit in drinking water of 0.04 parts of methoxychlor per million parts of water (0.04 ppm). EPA advises that children should not drink water containing more than 0.05 ppm for more than one day. Adults should not drink water containing more than 0.2 ppm for longer periods of time (7 years).

EPA restricts the amount of methoxychlor that may be released to the environment during burning or by disposal in landfills. EPA requires that spills or accidental releases of methoxychlor to the environment of 1 pound or more must be reported.

EPA has also set limits of 1–100 ppm on the amount of methoxychlor that may be present in crops, fruit, vegetables, grains, meats, milk, and food for livestock. The Food and Drug Administration (FDA) limits the amount of methoxychlor in bottled water to 0.1 ppm.

The Occupational Safety and Health Administration (OSHA) set a maximum level of 15 milligrams of methoxychlor per cubic meter (mg/m^3) of workplace air for an 8-hour workday over a 40-hour workweek. The American Conference of Governmental and Industrial Hygienists (ACGIH) has set a maximum level of 10 mg/m^3 in workplace air.

Glossary

Carcinogenicity: Ability to cause cancer.

Inhalation: Breathing.

Milligram (mg): One thousandth of a gram.

ppm: Parts per million.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1994. Toxicological profile for methoxychlor. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-639-6359. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.